DETAILED ACTION

1. This action is in response to applicant's arguments filed on 01/04/2008. Claims 1-15 are pending. **This action is made FINAL**.

Response to Arguments

2. Applicant's arguments filed 12/24/2007 have been fully considered but they are not persuasive.

A telephonic interview was conducted on 11/15/2007 with Applicant's representative, Michael A. Koptiw, regarding Lubbe's discussion of a conventional low-pass filter. Specifically, Lubbe discloses a conventional RC low pass filter with high-cut control function and the de-emphasis function, but comprising chip-external components (the variable resistors) as the varying elements to vary the cutoff frequency of the low pass filter. Applicant's representative was trying to make a point that these variable resistors are external elements. In view of Applicant's point, the Examiner suggests Applicant's representative to clearly point out how the claiming features is distinguished from Lubbe's disclosure, i.e., in term of the chip-external components disclosed by Lubbe in the next response.

Upon consideration of Applicant's representative's argument regarding the point above in view of the claims submitted with the argument and the cited reference, the Examiner agrees that the variable resistors are off-chip (not in the same IC with the audio signal processor). However, the Examiner found that the "location" of the variable

resistors is not within the scope of the current claims because the current claims do not recite any limitation that direct to the "location" of the "plurality of selectable resistive elements". Therefore, the argument regarding the chip-external components is considered invalided. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

In the argument filed on 01/04/2008, Applicant's representative further argues that Lubbe's actual invention discloses a low pass filter that is different from the conventional low-pass filter (actual invention uses variable capacitors instead of variable resistors), and argues that "Lubbe teaches one to *not* use such chip-external component stating that "[a]djusting these components requires some effort". However, it is not Lubbe's actual invention that discloses the current invention; it is the low pass filter with conventional technique that anticipates the current invention. Even though the conventional low-pass filter has its disadvantage(s) as disclosed by Lubbe, it is not within the scope of the *current claims*.

Finally, Applicant's representative argues that "these resistors mentioned in Lubbe are not selected based on a reception level as claimed". The Examiner respectfully disagrees. Even though the varying process of the resistors (calibration) is during production of the audio device, the low pass filter's cutoff frequency shift on the level of the *received field strength signal*, col. 1 with lines 60-63 of Lubbe.

Therefore, it is because Lubbe discloses a RC low pass filter with high-cut control function and the de-emphasis function, which the low pass filter can be formed by using a conventional technique comprising variable resistors that varies according to the received field strength signal (read as the claimed selection of the plurality of selectable resistive elements, the selection based on a reception level), col. 1 with line 34 to col. 2 with line 4), Lubbe discloses the claimed invention.

Response to Amendment

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-15 are rejected under 35 U.S.C. 102(b) as being anticipated by **Lubbe et al. (U.S. Patent No. 5,995,817)**.

Consider **claim 1**, Lubbe discloses a receiver *(read as a AM/FM audio device, lines 12-32 of column 1)* a high frequency demodulator circuit for demodulating a received signal *(read as an inherently existing demodulator that produces the demodulated signal by the low-pass filter 4, Fig. 1, lines 53-57 of column 3)*; and a high-cut control de-emphasis circuit (read as a "high cut" device for varying the cutoff frequency of a low-pass filter, lines 34-35 of column 1 of Lubbe, and that de-emphasis takes place in the low pass, line 53 of column 1) following the high frequency

demodulator circuit, the high-cut control de-emphasis circuit comprising a plurality of selected resistive elements (read as the conventional forming technique of the low pass filter comprising adjustable resistors, lines 55-65), wherein the high-cut control function and a de-emphasis function is made variable based on a selection of the plurality of selectable resistive elements, the selection based on a reception level *(read as varying the cutoff frequency of a low-pass filter by adjusting the resistors to perform high frequency reduction (de-emphasis) that takes place in the low pass in accordance with the received field strength, lines 34-65 of column 1).*

Consider **claim 2**, Lubbe discloses a receiver *(read as a AM/FM audio device, lines 12-32 of column 1)*, comprising:

a demodulation unit for demodulating a received signal *(read as an inherently existing demodulator that produces the demodulated signal to the low-pass filter 4, Fig. 1, lines 53-57 of column 3)*

an attenuation unit which is connected in the stage following the demodulation unit and which has both a high-cut control function and a de-emphasis function (read as a "high cut" device for varying the cutoff frequency of a low-pass filter, lines 34-35 of column 1 of Lubbe, and that de-emphasis takes place in the low pass, line 53 of column 1) and attenuates the high frequency component of a received signal *(read as the low-pass filter 4 connects following the inherently existing demodulator to filter the high frequencies, Fig. 1, lines 53-61)*;

a variable unit for making the cut-off frequency of the attenuation unit variable, the variable unit comprising a plurality of selectable resistive elements *(read as the*

conventional forming technique of the low pass filter comprising adjustable resistors, and varying the cutoff frequency of a low-pass filter by adjusting the resistors to perform high frequency reduction (de-emphasis) that takes place in the low pass in accordance with the received field strength, lines 34-65 of column 1); and

a generation unit for generating a control signal for controlling the operation of the variable unit based on the reception level of the received signal, the control signal directing a selection of the plurality of selectable resistive elements *(read as the inherently existing unit that controls the adjusting of resistors based on received field strength, lines 55-65 of column 1)*.

Consider **claim 3, as applied to claim 2 above**, Lubbe discloses the receiver, wherein the generation unit generates a control signal for controlling the operation of the variable unit based on the reception level of the FM reception signal *(read as the inherently existing unit that controls the adjusting of resistors, lines 55-65 of column 1)*.

Consider **claim 4, as applied to claim 2 above**, Lubbe discloses the receiver, wherein the generation unit generates a control signal so that the cut-off frequency of the attenuation unit becomes smaller as the reception level of the received signal becomes lower *(read as they cutoff frequency of the low-pass filter is lowered at field strengths supplying signal VF below V1 and this lowering of the cutoff frequency goes as far as lower limit V2, line 62 of column 3 to line 1 of column 4)*.

Consider **claim 5**, Lubbe discloses a receiver *(read as a AM/FM audio device, lines 12-65 of column 1)*, comprising:

a demodulation unit for demodulating the FM signal reception signal *(read as the AM/FM audio device operates in FM and an inherently existing demodulator that produces the demodulated signal to the de-emphasis unit (low pass filter 4), Figure 1)*;

a plurality of selectable resistors connected following the demodulation unit (read as the conventional forming technique of the low pass filter comprising adjustable resistors, lines 55-65);

a changeover unit for selecting a resistance value of the plurality of selectable resistors (*read as the inherently existing adjusting unit that adjust the resistors, lines 55-65 of column 1);*

a capacitor which attenuates the high frequency components of the demodulated FM signal in combination with the resistance values(read as the inherently existing capacitor in RC low pass filter 4, Figure 1);

a generation unit for generating a control signal for controlling the changeover operation of the changeover unit based on the reception level of the FM signal (*read as the inherently existing unit that controls the adjusting of resistors based on received field strength, lines 55-65 of column 1).*

Consider **claim 6, as applied to claim 5 above,** Lubbe further discloses that the generation unit generates a control signal so that the resistance value of the resistor becomes larger as the reception level of the FM signal becomes *lower (read as the cutoff frequency of the RC low pass type de-emphasis unit, which is controlled by a signal similar to DS signal from A/D converter 2, is lowered at field strengths supplying signal V_F below V1 and this lowering of the cutoff frequency goes as far as lower limit*

V2, Fig. 1, line 46 of column 3 to line 1 of column 4. Furthermore, this citation means that if the reception level of the FM signal goes lower, the cutoff frequency will be lower, (A→B). Since the de-emphasis unit is calculated by $f_c = \frac{1}{2\pi RC}$, *where* f_c *is the cutoff frequency, R is the total Resistances and C is a constant which represents the total Capacitances. According to the formula, if cutoff frequency is becoming smaller, the total resistances will become larger, (B→C). By using train rule in logic, (A→B) and (B→C) will give A→C. Specifically, A→C means if the reception level of the FM signal becomes lower, the resistor becomes larger, which is the same thing as the resistance value of the resistor becomes larger as the reception level of the FM signal becomes lower).*

Consider **claim 7**, Lubbe discloses a receiver which receives an FM signal or an AM signal *(read as a AM/FM audio device, lines 12-65 of column 1)*, further comprising:

a demodulation unit for demodulating the FM signal reception signal *(read as the AM/FM audio device operates in FM and an inherently existing demodulator that produces the demodulated signal to the de-emphasis unit (low pass filter 4), Figure 1)*;

a plurality of selectable resistors connected following the demodulation unit (read as the conventional forming technique of the low pass filter comprising adjustable resistors, lines 55-65);

a changeover unit for selecting a resistance value of the plurality of selectable resistors (*read as the inherently existing adjusting unit that adjust the resistors, lines 55-65 of column 1);*

a capacitor which attenuates the high frequency components of the demodulated FM signal or AM signal in combination with the resistance values (read as the inherently existing capacitor in RC low pass filter 4, Figure 1);

a first generation unit for generating a control signal for controlling the changeover operation of the changeover unit based on the reception level of the FM signal (*read as the inherently existing unit working in FM mode and controls the adjusting of resistors based on received field strength, lines 55-65 of column 1)*;

a second generation unit for generating a control signal for AM for controlling the changeover operation of the changeover unit based on the reception level of the AM signal (*read as the inherently existing unit working in AM mode and controls the adjusting of resistors based on received field strength, lines 55-65 of column 1)*;

a selection unit for selecting either the first control signal for the second control signal for AM based on a received signal and outputting the selected signal to the changeover unit (read as since the AM/FM audio device is for AM/FM, it inherently has a selection unit which can select either FM or AM for reception, and thus control signal or control signal for AM can be selected accordingly based on either FM or AM detection, *lines 12-65 of column 1*).

Consider **claim 8, as applied to claim 7 above**, Lubbe further discloses that the first generation unit generates a first control signal so that the resistance value becomes larger as the reception level of the FM signal becomes *lower (read as the cutoff frequency of the RC low pass type de-emphasis unit, which is controlled by a signal similar to DS signal from A/D converter 2, is lowered at field strengths supplying signal*

V_F below V1 and this lowering of the cutoff frequency goes as far as lower limit V2, Fig. 1, line 46of column 3 to line 1 of column 4. Furthermore, this citation means that if the reception level of the FM signal goes lower, the cutoff frequency will be lower, (A→B). Since the de-emphasis unit is calculated by $f_c = \frac{1}{2\pi RC}$, where f_c is the cutoff frequency, R is the total Resistances and C is a constant which represents the total Capacitances. According to the formula, if cutoff frequency is becoming smaller, the total resistances will become larger, (B→C). By using train rule in logic, (A→B) and (B→C) will give A→C. Specifically, A→C means if the reception level of the FM signal becomes lower, the resistor becomes larger, which is the same thing as the resistance value of the resistor becomes larger as the reception level of the FM signal becomes lower).

Consider **claim 9**, **as applied to claim 7 above**, Lubbe further discloses the receiver further comprising:

a third generation unit for generating a third control signal for FM for controlling the changeover operation of the changeover unit in order to change the time constant of the de-emphasis function *(read as the AM/FM audio device is working in FM and a converter similar to analog-to digital converter 2 works in FM mode to receives a received filed strength signal about FM and converts this signal into a signal similar to digital signal DS to control adjustable resistors to vary the de-emphasis unit (low pass filter 4), Fig. 1 and Fig. 4, lines 44-52 of column 3 and lines 27-39 of column 2),* and wherein

the selection unit selects either the first control signal, the second control signal for AM or the control signal for FM based on the received signal and outputs the selected signal to the changeover unit (read as since the AM/FM audio device is for AM/FM, it inherently has a selection unit which can select either FM or AM for reception, and thus control signal for FM or control signal for AM can be selected accordingly based on either FM or AM detection. Also, while in FM mode, a control signal will be selected for varying the de-emphasis unit, *lines 12-32 of column 1*).

Consider **claim 10, as applied to claim 1 above**, Lubbe discloses wherein the high-cut function and de-emphasis function share a capacitive element (read as the inherently existing capacitor in RC low pass filter 4, Figure 1).

Consider **claim 11, as applied to claim 2 above**, Lubbe discloses wherein the high-cut function and de-emphasis function share a capacitive element (read as the inherently existing capacitor in RC low pass filter 4, Figure 1).

Consider **claim 12, as applied to claim 5 above**, Lubbe discloses wherein the changeover unit comprises a switch that selects at least one of the plurality of selectable resistors (read as the adjustable unit that adjusting the resistors, lines 55-65 of column 1).

Consider **claim 13, as applied to claim 5 above**, Lubbe discloses wherein the capacitor in part provides a de-emphasis function (read as the inherently existing capacitor in RC low pass filter 4, Figure 1).

Consider **claim 14, as applied to claim 7 above**, Lubbe discloses wherein the changeover unit comprises a switch that selects at least one of the plurality of

selectable resistors (read as the adjustable unit that adjusting the resistors, lines 55-65 of column 1).

Consider **claim 15, as applied to claim 7 above**, Lubbe discloses wherein the capacitor in part provides a de-emphasis function (read as the inherently existing capacitor in RC low pass filter 4, Figure 1).

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

5. Any response to this Office Action should be **faxed to** (571) 273-8300 **or mailed to**:

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Hand-delivered responses should be brought to

Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Junpeng Chen whose telephone number is (571) 270-1112. The examiner can normally be reached on Monday - Thursday, 8:00 a.m. - 5:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban can be reached on 571-272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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